HAER, LA, 9-SHREV, 2-

HISTORIC AMERICAN ENGINEERING RECORD

MASTER PHOTO CAPTION LIST

LA-2

McNeil Street Pumping Station
"Arsenal Hill"
Northwest end of McNeil Street at Cross Bayou
(Caddo Parish)
Shreveport, Louisiana

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I. Early Water Supplies in Shreveport

LA-2-1 (Credit LSU)

A "tub" or surface cistern used to collect rainwater run-off from roofs. These cisterns provided water, especially for washing and cooking purposes, to many Shreveport households throughout the nineteenth century.

LA-2-2 (Credit SHR)

A subterranean cistern of the type used for both domestic water supplies and fire protection in Shreveport in the nineteen century. This cistern was uncovered during excavation for a parking lot in 1973.

II. General Views (External) of the McNeil Street Pumping Station

LA-2-3 (Credit CBF)

The McNeil Street Station on completion in 1887, from the northeast. The high service pump room is in the wing on the left; the low service pump room is in the wing on the right. (From: South-West Waterworks Association Convention, Shreveport Louisiana, October 1926, Souvenir Booklet, p. 11.)

LA-2-4 (Credit SHR)

The McNeil Street Station in 1896, north elevation. Note the offset filter house on the left, added in 1889-1890 to house four Hyatt upward flow pressure filters. It is adjacent to the high service pump room. (From: Shreveport Times, May 20, 1896, Railroad and Souvenir Edition)

LA-2-5 (Credit LSU)

The McNeil Street Station from Douglas Island, across Cross Bayou, c1907. Note the enlarged wood-framed filter wing on the left; the coal shed on the right; and the low service auxiliary pump house on tracks on the incline on the bank leading down to Cross Bayou. From: Louisiana State University, Shreveport Archives post card collection)

LA-2-6 (Credit CBF)

View of the McNeil Street Station from across Cross Bayou in November 1911. In the foreground is the Red River syphon crossing the bayou and entering the receiving well (the concrete cylinder on the right). Adjacent to it is the yet incomplete low service pump pit. To the left of this pit is the track on which the auxiliary low service pump had previously been mounted.

LA-2-7 (Credit CBF)

View of the McNeil Street Station from across Cross Bayou in March 1913, after completion of the auxiliary pump pit. The tool shed and tool supply house of the Shreveport Water Works Company is on the right edge of the photo.

LA-2-8 (Credit CBF)

View of the McNeil Street Pumping Station from the Cross Bayou Bridge, downstream from the pumping station, c1913.

LA-2-9 (Credit CBF)

The McNeil Street Station from the northwest, March 1913. The low service pump room is on the right, the clear water well (installed c1900) and filter house are on the left.

LA-2-10 (Credit CBF)

The McNeil Street Station from the west, March 1913. The low service pump room is on the left. The 'coal shed' which housed the laboratory (after 1908), the alum and lime rooms, and chemical storage is on the right.

LA-2-11 (Credit CBF)

Approach to the McNeil Street Pumping Station from the city c1912. Cross Bayou and the Red River syphon are visible in the center of the picture.

LA-2-12 (Credit CBF)

West end of McNeil Street Station in November 1911. The settling basins are visible on the far right. In the foreground is a pile of filter sand and several barrels of chemicals (probably lime or alum). The box car is delivering chemicals to storage in the west wing of the station.

LA-2-13 (Credit CBF)

West end of McNeil Street Station in November 1911.

LA-2-14 (Credit CBF)

The McNeil Street Pumping Station c1926, after substantial enlargement, from the front of the new combination main high service-low service pumping room. On the left, located over the old clear water well, is a circular building which housed both the laboratory and the chlorination room (it was added c1911). The tank above the lab-chlorination room is the filter wash water tank (new). From: South-West Waterworks Association Convention, Shreveport, Louisiana, October 1926, Souvenir Booklet, p.19)

LA-2-15 (Credit JAM)

Aerial view of the McNeil Street Station, date unknown, but comparatively recent. Note the new filter house to the left of the settling basins.

LA-2-16 (Credit JTL)

Front of plant, looking SSE at north elevation of 1921 pump room, wash water tower (1926) and machine shop wing.

LA-2-17 (Credit JTL)

Front (north) elevation of 1921 pump room.

LA-2-18 (Credit JTL)

North side of plant, view looking south along east side of 1921 pump room (at right) showing 1911 lab and chlorination building in foreground under wash water tank tower legs; filter wing, old high service room (1887), and side entrance in background.

LA-2-19 (Credit JTL)

North end of 1924 filter room addition. 1921 pump room in background behind trees.

LA-2-20 (Credit JTL)

South elevation of station viewed from across settling ponds.

LA-2-21 (Credit JTL)

View looking NW at south elevations of boiler room, old high service pumping room (1887) and beginning of 1900 filter room addition; wash water tank (1926) in background.

LA-2-22 (Credit JTL)

Detail, south elevation of boiler room; view looking NNW at Adolphous Custodis stack base (1900), boiler room doors, boiler backheads and edge of old high service pump room. Note joint in bricks to right of boiler room doors showing extent of wall replacement when doors were installed.

LA-2-23 (Credit JTL)

View looking ENE at west end of station. End addition houses chlorination equipment; to extreme right is north end of filter building built in 1942.

III. External Structures at the McNeil Street Pumping Station Site

LA-2-24 (Credit CBF)

Clear water water well (initially installed 1901) and front of the low service pump room, November 1911.

LA-2-25 (Credit CBF)

Clear water well in foreground; low service pumping room in background, November 1911.

LA-2-26 (Credit JTL)

View looking east at lab and chlorinator building (1911) and wash water tower (1926), both built over old clear water well installed in 1901.

LA-2-27 (Credit CBF)

Tool shed and tool supply house near the McNeil Street Station, November 1911.

LA-2-28 (Credit unknown)

Low service pump pit (erected in 1911-1912 near Cross Bayou) as it appears today (1980).

LA-2-29 (Credit JTL)

Low service pump pit in background erected in 1911-1912 on the banks of Cross Bayou (a Worthington compound duplex steam engine was placed inside this structure.) In the foreground is the receiving well (also erected in 1911-1912) which received water from the Red River siphon. After 1926 this well received water, instead, from Cross Lake via a 30-inch conduit. A concrete platform was installed in 1960 for #6 electric low service pump which has been superceded by newer 1977 installation.

LA-2-30 (Credit JTL)

Old 1911-1912 low service pump pit and receiving well in background. Platform and well in foreground constructed in 1977 for #6 and #7 electric low service pumps (#6 pump moved from old receiving well; #7 installed new).

LA-2-31 (Credit JTL)

View looking north at new (1980) electric high service pump installation. Single pump on separate platform in center installed in 1961. Electrical vault behind this pump and pumps to left all installed in 1980. New pumps at left are located at eastern edge of covered clear water well and consist of 2 constant-speed and 3 variable speed pumps.

IV. Steam Equipment in the McNeil Street Pumping Station

LA-2-32 (Credit CBF)

Boilers in the McNeil Street Station, November 1911: two 100 hp Atlas boilers and one Chattanooga boiler. The Atlas boilers were installed c1892, the Chattanooga boiler c1897.

LA-2-33 (Credit CBF)

Boilers, November 1911.

LA-2-34 (Credit JTL)

Front (north side) of three water tube boilers built by the Heine Safety Boiler Co. of St. Louis, Missouri in 1917; rebuilt in 1938. Front doors opened on center boiler to show water header and inspection plugs for water tubes. Smaller doors beneath open into firebox; boilers presently equipped for gas firing. Operating pressure approx. 150 psi (saturated steam).

LA-2-35 (Credit JTL)

Rear of Heine water tube boiler showing steam drum at top and water tube header below.

LA-2-36 (Credit JTL)

Detail of rear of Heine water tube boiler showing steam drum inspection manhole and blow-down valve. Note inspection plugs for water tubes in tube header below drum.

LA-2-37 (Credit CBF)

Boiler feedwater pumps and feedwater heater, c. 1912.

LA-2-38 (Credit unknown)

Boiler feedwater pumps and feedwater heater, c. 1975.

LA-2-39 (Credit JTL)

Interior of boiler room looking east; boiler casing in background, boiler feedwater pumps and feedwater heater in middle ground; hot well on columns in left foreground. Steam lines from boilers to high service engines pass overhead.

LA-2-40 (Credit LSU)

No.1 low service pumping engine built in 1897 by Henry R. Worthington Hydraulic Works. Installed in 1898, it was a direct-acting, vertical, triple expansion engine with pumps located some 45 feet beneath it in a pit. The pumps could deliver 3 mgd. (Photo c. 1900 from: Shreveport Progressive League, Shreveport Today, September 1904, p. 47)

LA-2-41 (Credit JTL)

View looking south at #1 low service engine as it appeared in 1980. Original 3 mdg pump ends were replaced in 1911 with Epping-Carpenter pump ends capable of delivering a total of 5 mgd. Engine was retired in the 1960's. Heine water tube boilers in the background.

LA-2-42 (Credit JTL)

No. 3 low service pumping engine built in 1920 by Worthington Pump and Machinery Corp. (No. 2 low service pump is submerged in 1911-1912 pump pit on Cross Bayou). This engine was built with 9", 15" and 24"x24" cylinders and could pump 5 mgd; grating covers pump pit opening. Elevator in cage at extreme left descends to pit bottom allowing easier access than spiral stairway . Electric low service pump motor to left also; pump located in bottom of pit.

LA-2-43 (Credit JTL)

View down into # 3 low service pump pit from elevator car. Worthington low service pump frame on left with pumps at bottom. Tunnel opening leads to #1 low service pump pit. Electric pump housing closest to tunnel opening installed in 1943; pump could deliver 6 mgd. Certrifugal pump near steps was installed in 1947 and is driven by a shaft from a motor at the top of the pit.

LA-2-44 (Credit JTL)

View looking northeast at bottom of #3 low service pump pit showing Worthington water pumps. Pumps have 21" diameter plungers and are driven by rods connected to steam cylinders above. Spiral stairway and elevator are on left.

LA-2-45 (Credit JTL)

View looking up from bottom of #3 low service pump pit showing frame of Worthington pump on right, water delivery pipe on left and top of 1943 6 mgd electric pump at bottom.

LA-2-46 (Credit LSU)

High service pumping room, c1904. The # 1 Worthington horizontal, triple expansion, high service engine is in the background. The pump whose steam end is in the foreground is a Blake compound, duplex horizontal engine, installed c1904. The engine in the center of the illustration is one of the original 1887 Blake high service engines (compound, duplex). It was shortly after removed. (From: Shreveport Progressive League, Shreveport of To-Day, September 1904, p. 47)

LA-2-47 (Credit CBF)

High service pumping room, November 1911. The two high service Worthington horizontal triple expansion pumps (installed c1900 and c1905) are in the foreground. The Blake high service horizontal compound unit (installed c1904) is in the background.

LA-2-48 (Credit CBF)

Steam piping in the high service room, November 1911.

LA-2-49 (Credit JTL)

View looking northeast at #1 high service pumping engine built in 1900 by Henry R. Worthington Hydraulic Works. This engine is a direct-acting, horizontal, triple expansion condensing engine with 12"x24", 19"x24" and 30"x24" cylinders and a pumping capacity of 3 to 4 mgd. Engine was in service until mid 1970's and remained on stand-by until August 1980. Doors behind engine lead to filter rooms.

LA-2-50 (Credit JTL)

Locomotive-type steam driven air compressor built by Westinghouse Air Brake Company and located on west wall of old high service room.

LA-2-51 (Credit JTL)

Interior view (looking NW) of new pumping room built in 1921. In the right foreground is #1 low service pump built in 1897. Installed at McNeil in 1898, it was not moved during the building of this room in 1921. Beyond is a 5 mgd capacity Worthington-Snow cross-compound, duplex crank-and-fly-wheel engine built in 1920. Behind the Worthington is an 8 mgd Allis-Chalmers engine of the same configuration. It was built in 1911, but not installed at McNeil until 1927. Both engines have condensers.

LA-2-52 (Credit JTL)

Interior view looking west at the two crank-and-fly wheel high service engines. Steam cylinders of engines are to the left; water pumps and condensers to the right. The Worthington-Snow engine in the foreground was built with 18"x36" and 40"x36" cylinders; its pumps can deliver 5 mgd total from two 15" diameter plungers.

LA-2-53 (Credit JTL)

Interior view looking southwest at two high service engines with Worthington-Snow engine in foreground. Electric high service booster pump is located on the far right between the two high service pumping engines. Grating is immediate foreground covers # 3 low service pump pit.

LA-2-54 (Credit JAM)

New main pumping room, c1975, showing steam cylinders of high service engines, 1920 Worthington-Snow in foreground.

LA-2-55 (Credit JAM)

New main pumping room c1975, showing water pumps of high service engines; 1920 Worthington-Snow in foreground.

LA-2-56 (Credit JTL)

View looking north between high- "and" low-pressure cylinders of Worthington-Snow engine showing Corliss valve gear and gauge rack.

LA-2-57 (Credit JTL)

View looking northwest at low-pressure side of Allis-Chalmers engine. Built in 1911, it has 22"x36" and 46"x36" cylinders and can deliver 8 mgd from two water pumps. Engine was installed at McNeil in 1927 after seeing service at the Tulsa (Oklahoma) Water Works and was retired in August, 1980.

LA-2-58 (Credit JTL)

View looking northeast across steam cylinders of Allis-Chalmers pumping engine. High-pressure cylinder is in foreground, low-pressure cylinder in background with part of Corliss valve gear visible.

LA-2-59 (Credit JTL)

View looking north between cylinders of Allis-Chalmers engine showing Corliss valve gear and gauge rack.

V. Water Purification Equipment (Filters, Aerators, Settling Basins, Lab)

LA-2-60 (Credit LSU)

Hyatt pressure filters (originally installed c1890) in filter wing of McNeil Station in 1904. (From: Shreveport Progressive League, Shreveport of To-Day, September 1904, p. 47)

LA-2-61 (Credit CBF)

Operating floor of filter room, c1912. A remodeled Hyatt pressure filter, now operating as a tub, gravity, rapid sand filter, is in the foreground (the remodeling took place c1908-1909). The remodeled New York horizontal pressure filters (installed c1900, remodeled c1908-1909) are in the background.

LA-2-62 (Credit CBF)

Operating floor of filter room, c1912. The remodeled New York horizontal pressure filters (now gravity filters) are in the foreground; the remodelled Hyatt tub filters are in the background.

LA-2-63 (Credit JTL)

Filter room looking east from doorway of 1887 high service room. Remodelled Hyatt tub filters are in foreground; remodelled New York horizontal pressure filters are in background. These two sets of filters were retired in 1942.

LA-2-64 (Credit JTL)

Filter room looking west at doorway into 1887 high service room. Part of #1 high service engine (built by Worthington in 1900) is visible through the doorway.

LA-2-65 (Credit JTL)

Filter room looking WSW across remodelled New York horizontal pressure filters (in foreground).

LA-2-66 (Credit JTL)

Filter rooms looking south from end of 1924 wing extension. Concrete gravity filters are in foreground, converted New York filters in background.

LA-2-67 (Credit JTL)

Concrete gravity filters added in 1904-05 at east end of filter room; view looking SSE.

LA-2-68 (Credit JTL)

Front view of one of the many marble benches used in the filter rooms for housing meters and filter controls. These were built by F.R. Leopold, Inc. of Pittsburgh, PA and installed in 1924-26.

LA-2-69 (Credit JTL)

View beneath marble meter bench showing hydraulic lines leading to water valve hydraulic control cylinders from control handles in bench; strings and pulleys activate meters.

LA-2-70 (Credit JTL)

Pipe gallery looking north in basement underneath 1910-11 and 1924 filter wing extensions.

LA-2-71 (Credit JTL)

Pipe gallery looking south in basement underneath 1910-11 and 1924 filter wing extensions. Note bottoms of converted New York horizontal pressure filters in right background.

LA-2-72 (Credit LSU)

Aerator in settling basin south of McNeil Pumping Station c1907. (Louisiana State University in Shreveport Archives, post card collection)

LA-2-73 (Credit CBF)

North embankment of settling basins, with rear of high service pump room and filter house, November 1911.

LA-2-74 (Credit CBF)

Partition between east and west settling basins c1912 with Adolphous Custodis stack (installed 1901) in background. The aerator in the west and the baffles in the east settling basin are visible.

LA-2-75 (Credit CBF)

Settling basins and south elevation of pumping station, March 1913. Two aerators are visible to the left.

LA-2-76 (Credit CBF)

Inside of laboratory at McNeil Street Station, c1912. Laboratory located over clear water well at this time.

LA-2-77 (Credit CBF)

Inside of laboratory at McNeil Street Station, c1912.

LA-2-78 (Credit JTL)

Mixing chambers (1924-1926) in foreground, looking west along south facade of station. Settling basins to left, new filter house (1942) in background. Aerators added in 1930-31 to remove carbon dioxide from water.

LA-2-79 (Credit JTL)

Detail of aerators.

LA-2-80 (Credit JTL)

Filters added in 1947 and 1975 in foreground (south of 1942 filter building). Tops of fluorine tanks for new (1980) fluoridation system can barely be seen over left edge of filters.

LA-2-81 (Credit JTL)

Interior of 1942 filter building west of settling basins.

LA-2-82 (Credit JTL)

Detail of filter control bench in 1942 filter building.

LA-2-83 (Credit JTL)

Detail of alum feed machine in alum room in pumping station. This piece of equipment adds dry alum to water as part of treatment process.

VI. Auxiliary Supply System, 1903-1926: Twelve Mile Bayou

LA-2-84 (Credit CBF)

Twelve Mile Bayou dam (originally built c1903), in November 1911.

LA-2-85 (Credit CBF)

Twelve Mile Bayou dam and pump house track, November 1911.

LA-2-86 (Credit CBF)

Canal between Twelve Mile Bayou and Cross Bayou in the bed of Blind Bayou (constructed 1901-1903). Photo taken in November of 1911.

LA-2-87 (Credit CBF)

Canal between Twelve Mile and Cross bayous from top of levee, March 1913.

LA-2-88 (Credit CBF)

Twelve Mile Bayou Pumping Station and force main for pumping water over levee and into the canal (Blind Bayou), March 1913.

LA-2-89 (Credit CBF)

Twelve Mile Bayou Pumping Station, November 1911.

LA-2-90 (Credit CBF)

Twelve Mile Bayou Pumping Station, November 1911, closeup of engine house.

LA-2-91 (Credit CBF)

Twelve Mile Bayou Pumping Station, boiler house, November 1911.

VII. Auxiliary Supply System, 1911-1926: Red River Syphon

LA-2-92 (Credit CBF)

Red River end of Red River syphon (installed 1911) in November 1911.

LA-2-93 (Credit CBF)

Red River syphon running along the southern shore of Douglas island, adjacent to Cross Bayou, March 1913.

LA-2-94 (Credit CBF)

Red River syphon line crossing Cross Bayou, March 1913. The new low service pump pit and the receiving well for the syphon are in the background.

LA-2-95 (Credit CBF)

Red River syphon line cross Cross Bayou, March 1913. The new low service pump pit and the receiving well for the syphon are in the background.

VIII. Auxiliary supply system, 1926 to present; Cross Lake spillway and booster station (Date of photos unknown, but probably taken in 1930s).

LA-2-96 (Credit BLV)

View looking West at Cross Lake dam and spillway constructed immediately west of Kansas City Southern railroad bridge. Booster station located at left. Note cribbing at bridge abutment in upper left which straddles gravity flow canduit installed in 1924-1926 and supports extra suction line (installed in 1930) on top.

LA-2-97 (Credit BLV)

View north from site of booster station. Kansas City Southern railroad embankment and bridge abutment at left.

LA-2-98 (Credit BLV)

Detail of gravity flow conduit intake at cross Lake dam Cribbing supports extra suction intake installed in 1930.

LA-2-99 (Credit BLV)

Detail of original gravity flow conduit and cribbing for 1930 suction line.

LA-2-100 (Credit BLV)

West side of booster station showing piping in yard.

XI. Miscellaneous

LA-2-101 (Credit CBF)

Cross Bayou below the McNeil Street Station, c1911.

LA-2-102 (Credit CBF)

Cross Bayou below pumping station, November 1911.

LA-2-103 (Credit CBF)

Adding sections to the standpipe at the corner of Texas and Hope streets. Date of photo unknown. The standpipe, 20 feet in diameter by 110 feet high, was originally erected in 1887. (Credit CBF and Grabill, photographer, Shreveport, Louisiana)

LA-2-104 (Credit SHR)

Offices of the Shreveport Water Works Company, 629 Market, c1905.

LA-2-105 (Credit JTL)

Interior of machine shop at station, looking west.

LA-2-106 (Credit JTL)

Interior of lime storage room (above storeroom in machine shop wing) at station, looking west.

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MC NEIL STREET PUMPING STATION
McNeil Street and Cross Bayou
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LA-2-1 through LA-2-106 were previously transmitted to the Library of Congress.

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All color xeroxes were made from a duplicate color transparency.

Jet Lowe, Photographer, October 1980

LA-2-107 (CT) INTERIOR VIEW (LOOKING NORTHWEST) OF NEW PUMPING ROOM BUILT IN 1921